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CLAIMS:

What is claimed is:

1.   A method in a logically partitioned data processing
5   system for preserving trace data after a partition crash,
said logically partitioned data processing system
including a plurality of processors, said method
comprising the steps of:
        encountering an error in one of said plurality of
10   processors;
        storing data in a trace buffer associated with said
error; and
        storing contents of said trace buffer prior to said
data being overwritten.
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2.   The method according to claim 1, wherein the step of
encountering an error further comprises the step of
encountering an unrecoverable error in said one of said
plurality of processors.
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3.   The method according to claim 1, further comprising
the step of storing said contents of said trace buffer in
non-volatile storage prior to said data being
overwritten.
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4.   The method according to claim 1, further comprising
the steps of:
        encountering said error; and
        storing a keyword with said data in said trace
30   buffer.

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5.   The method according to claim 4, further comprising the step of storing contents of said trace buffer in response to a detection of said keyword in said contents of said trace buffer.

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6.   The method according to claim 1, further comprising the steps of:

    encountering said error;

    servicing said error; and

10   storing a keyword with said data in said trace buffer during said servicing of said error.

7.   The method according to claim 6, further comprising the step of rebooting said one of said plurality of

15 partitions after said storage of said keyword.

8.   The method according to claim 1, further comprising the steps of:

    providing a trace facility, said trace facility for

20 receiving trace data and writing trace data to said trace buffer; and

    storing data in a trace buffer associated with said error utilizing said trace facility.

25 9.   The method according to claim 1, further comprising the steps of:

    receiving data to be stored in said trace buffer;

    determining whether said data includes a keyword; and

30   in response to a determination that said data includes said keyword, copying contents of said trace buffer.

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10. The method according to claim 1, further comprising the step of:

   providing a trace facility, said trace facility for receiving trace data and writing trace data to said trace
5 buffer;

   receiving data, utilizing said trace facility, to be stored in said trace buffer;

   determining, utilizing said trace facility, whether said data includes a keyword; and

10   in response to a determination that said data includes said keyword, copying, utilizing said trace facility, contents of said trace buffer.

11. The method according to claim 10, further comprising
15 the step of resetting, utilizing said trace facility, pointers to a top of said trace buffer, wherein data to be stored in said trace buffer is stored starting at said top of said trace buffer.

20 12. The method according to claim 1, further comprising the steps of:

   providing an exception handler routine;

   servicing, utilizing said exception handler routine, said error;

25   during said servicing, transmitting, utilizing said exception handler routine, data to a trace facility to be stored in said trace buffer, said data being associated with said error;

   including with said data, utilizing said exception
30 handler routine, a keyword;

   completing, utilizing said exception handler routine, said servicing of said error.

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13.   The method according to claim 1, wherein the step of encountering an error in one of said plurality of processors further comprises the step of encountering an unrecoverable error.

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14.   The method according to claim 13, further comprising the step of a partition controlled by said one of said plurality of processors crashing in response to said unrecoverable error.

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15.   A method in a logically partitioned data processing system for preserving trace data after a partition crash, said logically partitioned data processing system including a plurality of processors, said method
15   comprising the steps of:

        providing an exception handler routine;

        encountering an error in one of said plurality of processors;

        servicing, utilizing said exception handler routine,
20   said error;

        during said servicing, transmitting, utilizing said exception handler routine, error data to a trace facility to be stored in said trace buffer, said error data being associated with said error;

25   including with said error data, utilizing said exception handler routine, a keyword;

        completing, utilizing said exception handler routine, said servicing of said error;

        providing said trace facility, said trace facility
30   for receiving trace data and writing trace data to said trace buffer;

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receiving said error data, utilizing said trace
facility, to be stored in said trace buffer;

determining, utilizing said trace facility, whether
said error data includes a keyword;

5   in response to a determination that said error data
includes said keyword, copying, utilizing said trace
facility, contents of said trace buffer; and

resetting, utilizing said trace facility, pointers
to a top of said trace buffer, wherein data to be stored

10   in said trace buffer is stored starting at said top of
said trace buffer.

16.   A logically partitioned data processing system for
preserving trace data after a partition crash, said

15   logically partitioned data processing system including a
plurality of processors, comprising:

means for encountering an error in one of said
plurality of processors;

means for storing data in a trace buffer associated

20   with said error; and

means for storing contents of said trace buffer
prior to said data being overwritten.

17.   The system according to claim 16, wherein said means

25   for encountering an error further comprises means for
encountering an unrecoverable error in said one of said
plurality of processors.

18.   The system according to claim 16, further comprising

30   means for storing said contents of said trace buffer in
non-volatile storage prior to said data being
overwritten.

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19. The system according to claim 16, further comprising:

    means for encountering said error; and

    means for storing a keyword with said data in said

5 trace buffer.

20. The system according to claim 19, further comprising means for storing contents of said trace buffer in response to a detection of said keyword in said contents

10 of said trace buffer.

21. The system according to claim 16, further comprising:

    means for encountering said error;

15   means for servicing said error; and

    means for storing a keyword with said data in said trace buffer during said servicing of said error.

22. The system according to claim 21, further comprising

20 means for rebooting said one of said plurality of partitions after said storage of said keyword.

23. The system according to claim 16, further comprising:

25   means for providing a trace facility, said trace facility for receiving trace data and writing trace data to said trace buffer; and

    means for storing data in a trace buffer associated with said error utilizing said trace facility.

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24. The system according to claim 16, further comprising:

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means for receiving data to be stored in said trace buffer;

means for determining whether said data includes a keyword; and

5   in response to a determination that said data includes said keyword, means for copying contents of said trace buffer.

25. The system according to claim 16, further
10 comprising:

means for providing a trace facility, said trace facility for receiving trace data and writing trace data to said trace buffer;

means for receiving data, utilizing said trace
15 facility, to be stored in said trace buffer;

means for determining, utilizing said trace facility, whether said data includes a keyword; and

in response to a determination that said data includes said keyword, means for copying, utilizing said
20 trace facility, contents of said trace buffer.

26. The system according to claim 25, further comprising means for resetting, utilizing said trace facility, pointers to a top of said trace buffer, wherein data to
25 be stored in said trace buffer is stored starting at said top of said trace buffer.

27. The system according to claim 16, further comprising:
30   means for providing an exception handler routine;

means for servicing, utilizing said exception handler routine, said error;

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means for during said servicing, transmitting, utilizing said exception handler routine, data to a trace facility to be stored in said trace buffer, said data being associated with said error;

5   means for including with said data, utilizing said exception handler routine, a keyword;

means for completing, utilizing said exception handler routine, said servicing of said error.

10   28. The system according to claim 16, wherein said means for encountering an error in one of said plurality of processors further comprises means for encountering an unrecoverable error.

15   29. The system according to claim 28, further comprising means for a partition controlled by said one of said plurality of processors crashing in response to said unrecoverable error.

20   30. A logically partitioned data processing system for preserving trace data after a partition crash, said logically partitioned data processing system including a plurality of processors, comprising:

means for providing an exception handler routine;

25   means for encountering an error in one of said plurality of processors;

means for servicing, utilizing said exception handler routine, said error;

means for during said servicing, transmitting,

30   utilizing said exception handler routine, error data to a trace facility to be stored in said trace buffer, said error data being associated with said error;

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means for including with said error data, utilizing said exception handler routine, a keyword;

means for completing, utilizing said exception handler routine, said servicing of said error;

5   means for providing said trace facility, said trace facility for receiving trace data and writing trace data to said trace buffer;

means for receiving said error data, utilizing said trace facility, to be stored in said trace buffer;

10   means for determining, utilizing said trace facility, whether said error data includes a keyword;

in response to a determination that said error data includes said keyword, means for copying, utilizing said trace facility, contents of said trace buffer; and

15   means for resetting, utilizing said trace facility, pointers to a top of said trace buffer, wherein data to be stored in said trace buffer is stored starting at said top of said trace buffer.

20   31. A computer program product in a logically partitioned data processing system for preserving trace data after a partition crash, said logically partitioned data processing system including a plurality of processors, said product comprising:

25   instruction means for encountering an error in one of said plurality of processors;

instruction means for storing data in a trace buffer associated with said error; and

instruction means for storing contents of said trace

30   buffer prior to said data being overwritten.

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32. The product according to claim 31, wherein said instruction means for encountering an error further comprises instruction means for encountering an unrecoverable error in said one of said plurality of
5   processors.

33. The product according to claim 31, further comprising instruction means for storing said contents of said trace buffer in non-volatile storage prior to said
10 data being overwritten.

34. The product according to claim 31, further comprising:
      instruction means for encountering said error; and
15   instruction means for storing a keyword with said data in said trace buffer.

35. The product according to claim 34, further comprising instruction means for storing contents of said
20 trace buffer in response to a detection of said keyword in said contents of said trace buffer.

36. The product according to claim 31, further comprising:
25   instruction means for encountering said error;
      instruction means for servicing said error; and
      instruction means for storing a keyword with said data in said trace buffer during said servicing of said error.
30
37. The product according to claim 36, further comprising instruction means for rebooting said one of

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said plurality of partitions after said storage of said
keyword.

38.   The product according to claim 31, further
5 comprising:
       instruction means for providing a trace facility,
said trace facility for receiving trace data and writing
trace data to said trace buffer; and
       instruction means for storing data in a trace buffer
10 associated with said error utilizing said trace facility.

39.   The product according to claim 31, further
comprising:
       instruction means for receiving data to be stored in
15 said trace buffer;
       instruction means for determining whether said data
includes a keyword; and
       in response to a determination that said data
includes said keyword, instruction means for copying
20 contents of said trace buffer.

40.   The product according to claim 31, further
comprising:
       instruction means for providing a trace facility,
25 said trace facility for receiving trace data and writing
trace data to said trace buffer;
       instruction means for receiving data, utilizing said
trace facility, to be stored in said trace buffer;
       instruction means for determining, utilizing said
30 trace facility, whether said data includes a keyword; and

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in response to a determination that said data includes said keyword, instruction means for copying, utilizing said trace facility, contents of said trace buffer.

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41. The product according to claim 40, further comprising instruction means for resetting, utilizing said trace facility, pointers to a top of said trace buffer, wherein data to be stored in said trace buffer is

10 stored starting at said top of said trace buffer.

42. The product according to claim 41, further comprising:

   instruction means for providing an exception handler
15 routine;

   instruction means for servicing, utilizing said exception handler routine, said error;

   during said servicing, instruction means for transmitting, utilizing said exception handler routine,

20 data to a trace facility to be stored in said trace buffer, said data being associated with said error;

   instruction means for including with said data, utilizing said exception handler routine, a keyword;

   instruction means for completing, utilizing said
25 exception handler routine, said servicing of said error.

43. The product according to claim 41, wherein said instruction means for encountering an error in one of said plurality of processors further comprises

30 instruction means for encountering an unrecoverable error.

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44. The product according to claim 43, further comprising instruction means for a partition controlled by said one of said plurality of processors crashing in response to said unrecoverable error.

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45. A computer program product in a logically partitioned data processing system for preserving trace data after a partition crash, said logically partitioned data processing system including a plurality of

10 processors, said product comprising:

instruction means for providing an exception handler routine;

instruction means for encountering an error in one of said plurality of processors;

15 instruction means for servicing, utilizing said exception handler routine, said error;

during said servicing, instruction means for transmitting, utilizing said exception handler routine, error data to a trace facility to be stored in said trace

20 buffer, said error data being associated with said error;

instruction means for including with said error data, utilizing said exception handler routine, a keyword;

instruction means for completing, utilizing said

25 exception handler routine, said servicing of said error;

instruction means for providing said trace facility, said trace facility for receiving trace data and writing trace data to said trace buffer;

instruction means for receiving said error data,

30 utilizing said trace facility, to be stored in said trace buffer;

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     instruction means for determining, utilizing said trace facility, whether said error data includes a keyword;

     in response to a determination that said error data
5 includes said keyword, instruction means for copying, utilizing said trace facility, contents of said trace buffer; and

     instruction means for resetting, utilizing said trace facility, pointers to a top of said trace buffer,
10 wherein data to be stored in said trace buffer is stored starting at said top of said trace buffer.